ABSTRACT OF THE DISCLOSURE

A method and apparatus for predicting a plurality of surface multiples for a plurality of target traces in a record of seismic data. In one embodiment, the method includes creating a file containing information regarding a plurality of pairs of recorded traces. Each pair of recorded traces is substantially closest to a desired shot-side trace and a desired receiver-side trace. The method further includes convolving the pairs of recorded traces to generate a plurality of convolutions and stacking the convolutions for each target trace.

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